

ment the sufferings of the patient; and the only attitude in which he can find any rest, is with his head well elevated. We do not mean to imply that these cases are of an inflammatory nature, yet it is very evident that they are much aggravated by any sanguineous congestion in the parts affected. In phrenitis, otitis, erysipelas of the face, the higher the head is kept raised, the more relief the patient experiences; and when any local inflammation, as of one ear, exists, we uniformly observe that the symptoms are mitigated by lying on the opposite side. Ophthalmia has often been translated from one eye to the other, by the person continuing to lie on the sound side when the inflammation was abating in the other, and this alternation of the seat of the disease may be repeated several times, if the physician's attention be not directed to the real cause. The spreading of erysipelas on the trunk appears to be not unfrequently influenced by the position of the patient; the tendency to spread is generally in a direction to the most depending parts—those on which the patient is resting; and rarely upwards, or to a part more elevated than the spot from which it has started. We have already alluded to the frequency of pneumonic attacks of the lower and back parts of the lungs, in patients who have been long bed-ridden, from whatever cause; and it is unnecessary to do more than merely again to point to diseases of the rectum, uterus, and male organs of generation, in proof of the influence of position. In the treatment of ulcers of the leg, we are firmly of opinion that repose of the limb, in the horizontal posture, is by far the most important of all therapeutic means; poultices, lotions, and ointments will often all fail, unless this necessary adjunct be attended to at the same time; and even when the patient is not strictly confined, do we not invariably employ what may be called compensating remedies, viz. strips of adhesive plaster, or rollers from the toes up the whole length of the limb? and the effect of these is well known to be, the taking off the pressure of the superincumbent column of blood from the veins of the foot and leg.

M. Gerdy, about a twelvemonth ago, instituted a number of experiments at the Hôpital St. Louis, on the different methods of treating ulcers; different sets of patients were submitted to the different methods, and each method was employed by itself, in order that the results of each might be justly appreciated. Many of the details have been published in the article "Attitude," in the *Nouveau Dictionnaire de Médecine*. We shall mention a few of them.

When the limb on which an ulcer existed was kept upon an ascending inclined plane, it was found that the sore became pale, the suppuration was diminished in quantity, and a crust soon began to be formed upon the surface, and under this the healing went on more or less rapidly. If strips of adhesive plaster were used, at the same time that the elevated inclined position was retained, the cure was still more rapid: it was by combining the elevation with the use of adhesive bandages, and the entire repose of the limb, that cicatrization of the ulcer was most speedily effected. Several cases of severe contusion were treated on the same plan, with very decided success—the contused limbs being retained in an elevated inclined position during the whole period of the treatment; the decrease of the pain, tension, and tumefaction was sometimes truly remarkable.

M. Gerdy is of opinion, that many white swellings of the joints may be very materially benefited by an application of the principles which have directed his treatment of ulcers. He recommends that the affected limb be kept perfectly quiet, and on an inclined plane, so that the foot is considerably more elevated than the thigh. He is not yet provided with the reports of any cases to prove the correctness of his ideas; but in one case of elephantiasis of the leg, treated by elevation of the limb, and compression at the same time, the result was most satisfactory—the subsidence of the enlargement was very striking.—*Med. Chir. Rev. & Archiv. Générales*, Dec. 1833.

12. *Of the Chemical Properties of the Secretions in Health and Disease, and of the existence of Electrical Currents determined in Organized Bodies by the Acidity and Alkalinity of the Membranes.* By M. DONNE.—1. From the whole surface of

the skin is secreted an acid humour. The sweat, however, instead of being, as is generally said, very acid under the arm-pits, and round the genital organs, is, on the contrary, as alkaline in these parts as at the toes.

2. The digestive canal from the mouth to the anus secretes an alkaline mucus, except in the stomach, where the gastric juice is very acid. Thus the saliva and the mucus of the œsophagus, as far as the cardia, are alkaline in a healthy state, and become acid only in consequence of disease. From the pylorus to the end of the intestinal canal, the mucus furnished by the mucous membrane itself is alkaline.

3. Serous and synovial membranes all secrete an alkaline liquor in a normal state, which in certain diseases sometimes becomes acid.

4. The external acid and the internal alkaline membranes of the human body represent the two poles of a pile, the electrical effects of which are appreciable by the galvanometer. Thus, in placing one of the conductors of the instrument in contact with the mucous membrane of the mouth, and the other in contact with the skin, the magnetic needle deviates fifteen, twenty, and even thirty degrees, according to the sensibility of the galvanometer, and its direction indicates that the mucous or alkaline membrane takes negative electricity; and the cutaneous membrane positive electricity.

Independently of these two great surfaces presenting opposite chemical states, there exist other organs, the one class of which may be called acid, and the other alkaline, and which produce the same result; between the stomach, for instance, and the liver of all animals, extremely powerful electrical currents are found.

5. M. Donné has observed electrical phenomena of the same kind in vegetables, of which he gives examples, but electrical currents in vegetables are not produced by the acid or alkaline states of the parts as in animals, because the juice of fruits, at least such as M. Donné examined, is throughout more or less acid. Accordingly, however, to the beautiful experiments of M. Biot, the juices which arrive by the pedicle are modified on some part of the fruit, and it is perhaps to this difference of the chemical composition of the juices of the two extremities that the electrical phenomena are to be attributed.

6. The acid humours of the economy may become alkaline, and *vice versa*.

7. Acidity is usually the result of inflammation, properly speaking, which may be produced by sympathy in an organ situated at a distance from the inflamed point. Thus the saliva becomes very acid in inflammation of the stomach.

8. The acid which is developed in inflammation appears to be most frequently the hydrochloric. The presence of this acid produces coagulation of the albuminous part of the lymph, or of the serosity which abounds in inflamed parts. The false membranes in the serous cavities, the albuginous spots of the eye, the coagulable lymph of wounds, the thickenings of certain organs, and many other morbid productions resulting from inflammation, in which there is found by analysis only albumen, more or less coagulated, are owing to this.

Pus itself is produced by the action of the acid on albuminous lymph. It is a kind of union of the acid with the albumen. If free acid be not found in the liquids effused on the surface of inflamed organs, it is owing to the humours of the body being very alkaline, and containing sufficient potass and soda to neutralize the acid. In the memoir, however, of which this paper is a summary, M. Donné has cited many cases in which *pus* and even the serum effused into the abdomen in consequence of *peritonitis* were found acid. An analogous case was reported to M. Donné by M. Dumas, and another is mentioned by Berzelius in his treatise on chemistry.

9. The changes in the chemical nature of the secretions react on the different systems of the economy, forming an interesting order of lesions and symptoms in connexion with the etiology, the diagnosis, and even the treatment of diseases. These changes according to M. Donné, produce modifications of the electrical currents which exist between the different organs of the economy.—

Ed. Med. & Surg. Journ. and Journ. Hebdom. Feb. 1834.

13. *Action of Sugar upon Human Blood.*—Professor HEGEWISCH, of Keil, states that a solution of sugar produces the same alteration in the colour of black blood as the saline solutions, namely, changing it to a bright arterial colour.—*Gazette Médicale de Paris*, April 12th, 1834.

PATHOLOGY.

14. *Foreign Body found in the Heart of a Boy.*—The following very curious instance of this is recorded by T. DAVIS, Esq. of Upton upon Severn, in the second volume of the *Transactions of the Provincial Medical and Surgical Association*.

"On Saturday evening, January the 19th, 1833, I was summoned to attend Wm. Mills, aged ten, living at Boughton, two miles from Upton. When I arrived, his parents informed me that their son had shot himself, with a gun made out of the handle of a telescope toasting-fork. To form the breach of the gun, he had driven a plug of wood about three inches in length into the handle of the fork. The touch-hole of the gun was made after the charge of powder had been deposited in the hollow part of the handle. The consequence was, that when the gunpowder exploded, it forced the artificial breach, or piece of stick, from the barrel part of the gun with such violence that it entered the thorax of the boy, on the right side, between the third and fourth ribs, and disappeared. Immediately after the accident, the boy walked home, a distance of about forty yards.

"By the time I saw him, he had lost a considerable quantity of blood, and appeared very faint; when I turned him on his right side, a stream of venous blood issued from the orifice through which the stick entered the thorax. Several hours elapsed before any degree of reaction took place. He complained of no pain.

"For the first ten days or a fortnight after the accident, he appeared to be recovering, and once during that time walked into his garden and back, a distance of about eighty yards; and whilst there he amused himself with his flowers, and even stirred the mould. He always said he was well, and was often cheerful, and even merry. There was no peculiar expression of countenance, excepting that his eyes were rather too bright.

"After the first fortnight he visibly emaciated, and had frequent rigors, which were always followed by faintness. The pulse was very quick. There was no cough nor spitting of blood. The secretions were healthy. He had no pain throughout his illness.

"He died on the 25th of February, five weeks and two days after the occurrence of the accident.

"*Dissection.*—On opening the thorax, a small cicatrix was visible between the cartilages of the third and fourth ribs, on the right side, about half an inch from the sternum.

"The lungs appeared healthy, with the exception of a small tubercle at the right, and at its root, near to the pulmonary artery, a small blue mark in the cellular tissue, corresponding in size with the cicatrix on the parietes of the chest.

"Half an ounce of serum was contained in the pericardium.

"When an incision was made into the heart, so as to expose the right auricle and ventricle, we were astonished to find, lodged in that ventricle, the stick which the boy had used as the breach of the gun, the one end of it pressing against the extreme part of the ventricle, near the apex of the heart, and forcing itself between the *columnæ carneæ* and the internal surface of the heart; the other end resting upon the auriculo-ventricular valve, and tearing part of its delicate structure, and being itself encrusted with a thick coagulum as large as a walnut.

"We searched in vain for any wound, either in the heart itself or in the pericardium, by which the stick could have found its way into the ventricle."

No. XXIX.—November, 1834. 18